

bobbin 12 all stick together. A second layer of binder material (pre-preg filament plies) is applied on top of the first tape layer, then a second layer of HTS tape is wound. The same series of straight blocks 16 is used to compress the winding 18 against the bobbin 12 so that all the layers stick together. The layer winding process continues until the last odd number layer is complete, and a finish lead is soldered to a copper lead terminal that is secured to the other of the side plates 14 near the center line axis of the coil.

Please replace paragraph [0029] with the following rewritten paragraph:

[0029] A layer of pre-preg filament plies is then applied on the outside surface of the complete winding followed by a layer of copper foil with a rectangular cooling heat exchanger tube bonded on the outside surface. A series of straight blocks and corner blocks 16 (as shown in FIGURE 1) are assembled to the outside surface of the copper foil via the side plates 14 to compress the complete coil as moderate heat is applied to precision shape the coil outside surface. The finished coil form and winding assembly is baked at uniform temperature to cure the pre-preg. The temperature varies according to a curing temperature of the particular material. The resulting coil structure is a strong winding composite built to close tolerance dimensions.

IN THE CLAIMS

Please cancel claims 1-8, 14 and 15 without prejudice or disclaimer.

Please substitute the following amended claim(s) for corresponding claim(s) previously presented. A copy of the amended claim(s) showing current revisions is attached.

9. (Amended) A method of manufacturing high temperature superconducting coils with an apparatus including two side plates disposed in facing relation, a bobbin disposed between the side plates, and a plurality of blocks assembled adjacent an outer edge of the side plates, the blocks being displaceable toward and away from the bobbin, the method comprising:

- a4
- (a) winding high temperature superconducting tape onto the bobbin;
 - (b) applying a binder to the wound high temperature superconducting tape;
 - (c) compressing, with the plurality of blocks, the high temperature superconducting tape and the binder against the bobbin; and
 - (d) baking the compressed high temperature superconducting tape and the binder to thereby cure the binder.

10. (Amended) A method according to claim 9, wherein steps (a), (b) and (c) are practiced for multiple layers of the high temperature superconducting tape one layer at a time.

11. (Amended) A method according to claim 9, wherein steps (b) and (c) are practiced after winding multiple layers of the high temperature superconducting tape.

12. (Amended) A method according to claim 11, wherein step (b) is practiced by epoxy-impregnating the wound multiple layers of the high temperature superconducting tape by a vacuum pressure impregnation process.

13. (Amended) A method according to claim 11, wherein step (a) is practiced using high temperature superconducting tape with a pre-preg coating.
